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ABSTRACT

The study is a methodological inquiry into the interpretation of qualitative data. It explores a grounded theory approach to the synthesis of data, and examines, in particular, construction of categories. It focuses on ways of organizing data and attaching meaning, as research problems embedded in cultural context are explored. A qualitative research training task, with 4-7 subjects per group (4 or 5 groups per class), evaluating comic strip culture was used. We wanted to know how different ways of categorizing data lead to different interpretations of comic strip culture. In this regard, we were looking at: (1) consistency within groups, and (2) how groups differ. Implications of this study center around the idiosyncratic nature of qualitative research, issues related to generalizability, and relationships between training and non-training of researchers to the interpretation of data. Three tables and five figures are included. (Contains 10 references.) (Author)

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QUALITATIVE ANALYSIS OF A SYNTHETIC CULTURE: A METHODOLOGICAL INQUIRY

Suzanne MacDonald
Isadore Newman
Kyle Waite
Brad Potts

University of Akron

Presented at the Annual Meeting of the Mid-Western Educational Research Association Chicago, Illinois October 13-16, 1993

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ABSTRACT

The study is a methodological inquiry into the interpretation of qualitative data. It explores a grounded theory approach to the synthesis of data, and examines, in particular, construction of categories. It focuses on ways of organizing data and attaching meaning, as research problems embedded in cultural context are explored. A qualitative research training task, with 4-7 subjects per group (4 or 5 groups per class) evaluating comic strip culture,was used. We wanted to know how different ways of categorizing data lead to different interpretations of comic strip culture. In this regard we were looking at a) consistency within groups, and b) how groups differ. Implications of this study center around the idiosyncratic nature of qualitative research, issues related to generalizability, and relationships between training and non-training of researchers to the interpretation of data.

Perspective

Qualitative research has gained in frequency of use but with proportionately fewer people well-trained in the methodology applying to its use. With this increase in usage there is concomitantly an increase in the need to understand some of the concerns innate in the procedures used when conducting qualitative investigations. It is recognized by almost all authorities (Eisner & Peshkin, 1990; Guba & Lincoln, 1982; LeCompte & Goetz, 1982) that qualitative research has a high subjective component in its interpretation and that this has been one of the major concerns and criticisms levied at this particular approach. They recognize that qualitative research has been criticized for its subjectivity. The rebuttal to such criticism tends to rest on the assumption that training in coding methodology as well as other aspects of qualitative procedures will decrease concerns associated with some of the major criticisms. Based upon the above argument, the investigators designed a

methodological inquiry examining the potential effect of coding training on the interpretation of a cartoon culture.

As a methodological inquiry into the interpretation of qualitative data, the study explores a grounded theory approach to the synthesis of data, examining, in particular, the identification and building of categories, as one part of the coding, categorizing, and thematic development sequence. It focuses on ways of organizing data and attaching meaning, as research problems embedded in cultural context, are explored as part of the continuing debate concerning qualitative research (Constas, 1992).

The research addresses some key components of an ongoing debate over the value and place of qualitative approaches to the understanding of problems in education and related fields. Eisner and Peshkin (1990) stress the need to explore and further develop models of qualitative research acceptable to the research community, and to which "educational researchers with a qualitataive bent could turn for direction." Newman and Benz (1992) ask that educational researchers reject the qualitative-quantitative dichotomy and think in terms of a synthesis of the two approaches. This perspective involves, among other things, renewed examination of both research approaches in terms of a broader paradigm or frame of reference than has often been used in the past.

This study focuses on the data analysis phase of ethnographic research. The importance of the study is related to the tremendous complexity and layering of ethnographic interpretation as described by Geertz, when he observed ". . . that what we call our data are really our own constructions of other people's constructions of what they and their compatriots are up to--is obscured because most of what we need to comprehend a particular event,

ritual, custom, idea, or whatever is insinuated as backgound information before the thing itself is directly examined (1973, p. 9)."

This particular research focuses on qualitative inquiry in relation to issues of reliability, validity, and generalization--concerns often raised by educational researchers, especially by "quantitative" researchers. Addressing its inappropriateness for generalization, the value of qualitative research is often described as in the depth and richness of description it provides in particular and idiosyncratic cases, and not in generalization to other cases (Erickson, 1988; Peshkin, 1993). However, there are some recent claims by qualitative researchers such as Polkinghorne (1991) that qualitative research can be generalized beyond the specific case.

Objectives

Objective: To investigate some methodological aspects of qualitative analysis, i.e.,

1) To replicate findings from a previous pilot study
2) To estimate the effect of training students in coding techniques on change in their interpretation
3) To estimate the effect of training students in coding techniques towards increasing group consensus (within-group change)
4) To estimate the effect of training students in coding techniques towards increasing generalizability across groups (across-group change)

Method and Data Source

A comic strip culture was used as a common data set for studying the elicitation of categories in qualitative analysis by 1) individuals given the same data, and 2) groups consisting of the individuals who had already processed the data individually. Comparisons were made of 1) individual responses ,

2) intra-group responses, and 3) inter-group responses. A qualitative research training task, with 4-7 member groups evaluating comic strip culture, was used. We wanted to know how different ways of categorizing data lead to different interpretations of comic strip culture. In this regard we were looking at a) consistency within groups, and b) how groups differ.

We started with four graduate students who served as interviewees after reading comic strip material to be used with a graduate class later. Questions and approach to the cartoon culture simulation were modified on the basis of what we learned. In Week 9 of the semester, twenty-seven students in a graduate course focusing on education in cultural context, participated in a qualitative inquiry into the nature of culture and its analysis through a simulation using ethnographic techniques. In this initial inquiry (Study 1), students doing the analysis had not been trained in ethnographic techniques, although they had some general exposure to the topic. They had, however, been exposed over several sessions to characteristics of culture, and a range of concepts associated with culture and sub-cultures.

The class activity was titled *MAKING MEANING: AN EXPLORATION OF COMIC STRIP CULTURE* , and resulted in 27 individual and 4 group responses to the following set of questions: 1) Who are the main characters (in this culture)? 2) Which characters have the most prestige (in this culture)? Why do you think this? *3) Describe this culture. What are the cultural values? 4) What general reaction and/or miscellaneous observations can you note? 5) How familiar are you with this comic strip? 6) How long did it take you to read the book? This paper focuses on students' responses to Question #3.

The task consisted of students individually reading the comic strip book and writing their responses to the above questions outside class. Afterwards, during one class session, approximately an hour and a half, the individual

responses were discussed in groups. Each group was asked to reach consensus on a cultural description of this comic strip, following the set of questions they had worked through individually. They were asked to put their group response in writing.

Grouping, for purposes of this in-class activity, was by self-selection. In order to make the task more fun, students were assigned to groups of 4-7, on a first-come, first-serve basis, by raising their hands as they agreed with particular, casual statements (in the second study, students "numbered off"). Class discussion followed the group processing, including inquiry into change in their thinking as a result of attempting group consensus, i.e., group description of the culture.

The above is a description of Study 1, conducted Spring 1993. Study 2, conducted in Summer 1993, is a replication of Study 1, with the addition of some training in coding techniques. Basically, the training in Study 2 involved repeated viewings of a video of a culture which was unfamiliar to students in the class; it involved instructing and coaching them in observation, note-taking, and concept development and categorization (Spradley, 1979).

Study 2 is in two parts, Part I being equivalent to the first study where students were asked simply to describe the culture in the first third of the book, without reliance on any specific training. In Part II they were asked to apply their coding training to interpretation of the culture as depicted in either the second or third section of the book.

Data Analysis

Students' written responses to Question #3 were categorized and tallied according to 1) individual answers written before the group session, 2) group answers found by tallying the responses of individual group members, and

3) group answers reported as group consensus by the group's recorder. Categories of cultural values were generated from students' responses. The results from Study 1 are reported in Table 1. The results from Study 2, in two parts, are shown in Tables 2 and 3.

Results of Study 1 (Without training)

Findings for the class in Study 1 were: 1) Intra-group differences and perceptions were pronounced. Out of 19 possible categories, there was no group in which everyone selected any one category, although in some cases attention clustered in certain categories, 2) Group consensus varied considerably from individual reports, 3) Individuals reported more diverse answers than group consensus indicated, in spite of the fact that most individuals reported no change in atttitudes as a result of the experience, 4) Group consensus provided responses which were more simplified, and were focused on fewer categories than those of individuals, and 5) Unexpectedly, inter-group comparisons based on consensus yielded little agreement.

Results of Study 2 (With training)

Study 2 produced slightly different categories than Study 1 (See Tables 1, 2, and 3). For the class in Study 2 (that received training), more categories were identified, implying that training may have increased their awareness and ability to discern increased numbers of categories.

As one can see from Table 2, Study 2, Part I, this class, when given the same task as those in Study 1, produced results which were not any more consistent than those in Study 1; there was still a wide range of differences in categories within and between groups. For instance, members of Group 2 identified 18 out of 29 categories and Group 3 members had 12 of 29 categories. Looking at the consensus items for Study 1, Part I, i.e., how many categories individuals identified compared with categories that the group

agreed upon as existing, we found the following percentages of agreement for the five groups: 40%, 24%, 54%, 37%, and 35%. The percentages were somewhat lower than the amount of agreement between individuals in the groups and consensus items for those groups than we found in Study 1.

Table 3 summarizes the data that was collected from students in Study 2, Part II, where they were asked to apply their training in coding to the interpretation of the cartoon culture. As one can see from Table 3, there were more categories produced here than in Study 1 or in Part I of Study 2. However, the percentages of agreement between the individual responses in the group and the consensus items for the group were less than those in Study 1 or in Part I of Study 2. The percentages for Study 2, Part II were: 27.3%, 22.2%, 30%, 28%, and 30%.

Students were asked if they had changed their mind on categories which they had generated individually as compared with the group's report of consensus items. Interestingly, a large majority of students (77% in Study 2) said the process of reaching group consensus did not change their own original opinion, and in addition, verbal reports from a majority of students indicated that the group consensus was reflective of their own opinion. These findings are contrary to the individual data indicating that there were many more individual differences than the group reported as consensus. This paradox was found in Study 1; Study 2, Part I; and Study 2, Part II--with training as well as in the absence of training. It is interesting to note that in many cases where students reported no change in their views as a result of the group process, they did comment that they became aware of additional ideas and categories that they had not generated on their own. Although these comments indicated that more categories were experienced in the group process, what came out of the group were fewer categories--fewer than the individuals generated collectively, and,

for the most part, fewer than individuals had generated prior to the group experience.

Discussion/Implications

In Study 2, in part, we replicated Study 1, but also looked at the effects of training students in coding methodology on interpretation of qualitative data and consensus within and between groups. Results of the second study are very similar to the first study. Although it appears that training in coding methods increased the perceived number of categories, it seemed to have little or no effect on agreement within and between groups when compared to the first study, where students had not received training. There are a variety of possible explanations for this outcome.

There were different individuals that classified student categories in Study 1 and Study 2. This may explain some differences between Study 1 and Study 2. However, this would not account for difference or lack of difference in Parts I and II of Study 2; in that case, the person classifying the categories was the same.

There were some overall differences in the makeup of the two classes, those in Study 2 being generally older than Study 1, more frequently in practice as teachers, administrators, counselors, or social workers; and, those in Study 1 tending to be younger, non-practitioner, and in many cases, preparing for careers in counseling/psychology. We cannot, at this point, gauge the impact that these differences had on outcomes between the two studies, but again, this would not have affected comparisons between Parts I and II of Study 2.

In general, there was a fair amount of naivete in the students asked to do the coding, which was reflected in how they did the coding and the consequent generation of categories. This naivete was obvious in looking at their attempted coding of the cartoon culture, which may be more problematic in these studies

than one would suspect to be the case for those who actually do qualitative research.

As one can see from our data, individuals thought they actually received more information by discussing in group, yet what always came out of the group was a sub-set of all the individual responses. It appears that one does get more information by discussing things in groups, but that the aggregated consensus in the group is less than the total of all the individual responses, and that agreement between groups on the consensus items was not any better than agreement between consensus items for individuals in the groups. Actually, the areas where the individuals had the highest agreement are not reflected in the consensus statement, which would argue against generalizing from qualitative research.

The person who analyzed the student classifications for Study 2 reported difficulty and frustration since some of the students' classifications depended upon so many nuances and subtleties. The use of a cartoon culture, especially a satirical one, may have presented some unique problems in this regard. For instance, some students may have been responding to the culture in a concrete way; i.e., they interpreted "sexist" references as reflecting the meaning of the culture. Others, realizing it was satirical, appear to have responded to the satire; i.e., picking up on very sexist comments, they would say that the cartoon is arguing against sexism by making it sound stupid. Others seemed to deal with it in terms of a counter-culture and its political implications. So the same event, depending on the students' perspectives, may have been coded totally differently. One may argue that this is a problem. We are taking the position that virtually all qualitative researchers have a perspective, whether aware or not, and that these different perspectives are likely to produce different coding responses. The fact that we used a cartoon culture may only make these

discrepancies more obvious. This experience with the cartoon culture might be a more accurate simulation of the real problems encountered in the interpretation of qualitative data than we originally realized.

Last, we do not know how much of these results we can attribute to the quality or extent of training received, since the time allotted for training was minimal--approximately an hour out of each of three class sessions.

Importance of the Study

This data support a variety of conjectures. First, if we have individuals interpreting culture, we could easily get a perception that is difficult to agree upon because it is based on idiosyncratic analysis of data describing cultural values. Secondly, recent mainstream thinking of qualitative and quantitative researchers suggests that (a) individuals are more likely to give rich, in-depth perceptions, (b) however, that individual data is less likely to be generalizable to other individuals perceiving this data. Group data may be somewhat more generalizable. We therefore might consider using aggregated data with the expectation to get data that tend to be more consistent and reliable, but less rich with idiosyncratic differences.However, our data suggests that generalizability was not increased by the aggregated group consensus data.

Third, the group produced less in the way of in-depth perceptions, in these studies, fewer and more general categories than did individuals. Fourth, the results are contrary to recent attempts by some qualitative researchers, such as Polkinghorne (1991), to generalize with qualitative research, although they say that it is a different type of generalization.

Last, one may wish to train observers to increase inter-rater reliability; however, trained observers might acquire a **pre-set** and see what they were trained to see, or what they were trained to see as important. It is difficult to understand how one can be trained to observe independently of their own

personal experiences and values. Training people might increase the reliability but at the potential cost of validity. Our results show that training increased the percentage of agreement among individual raters while it also increased variability (an idiosyncratic aspect).

This simulated anthropological study was done to estimate the accuracies and consistencies between individual and group perceptions on a relatively "neutral" culture (with fictitious cartoon characters). As indicated earlier, we wanted to determine the relative consistency between individuals v. groups, and we found that group predictions were not more consistent than individual predictions. We initially expected that it would increase consistency (replicability) when doing ethnographic research to have more than one observer looking at the same data. These studies, however, did not support this initial assumption. This research suggests that triangulation in the collection and analysis of data may be more problematic than we initially expected.

In addition to replicating Study 1, Study 2 was an investigation of the effects of training students in coding methods to determine the effects of consistency on their perception and their willingness to achieve change for consensus. We were interested in a) the effects of coding training on participants' awareness of their changes in perception, b) a possible increase in the likelihood of group consensus, and c) a possible increase in the generalizability of group consensus.

Our research, we believe, supports the need to do further research on qualitative methodology for the purpose of improving appropriate interpretation of qualitative research.

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Table 1

Categories of Cultural Values Elicited From Respondents Answering Question #3 *1

Elicited Categories *2	Group 1									Group 2									Group 3									Group 4									%IND	% GRP
	A	B	C	D	E	F	G	T	Y/N	A	B	C	D	E	F	G	T	Y/N	A	B	C	D	E	F	T	Y/N	A	B	C	D	E	F	*3	T	Y/N	*5	*6
1. ENJO	X	X		X	X			4				X				X	2								0								0	Y	23	25
2. ANTI-MAT		X		X				2			X				X	X	3								0								0		19	0
3. MINORI		X	X					2	Y	X						X	2							X	1		X				X		2		28	25
4. INDIVID							X	1	Y								0			X	X	X	X	X	5	Y		X	X					2		31	50
5. XENOPH						X	X	2									0								0								0		8	0
6. HONEST					X		X	2									0								0								0		8	0
7. POL CORR								0									0								0								0		0	0
8. ANTI-INDIV					X	X		2									0								0								0		8	0
9. ANTI-FREE						X		1									0								0								0		4	0
10. MATERIAL						X		1		X		X					2								0								0		12	0
11. WOM EXPL						X		1									0								0								0		4	0
12. LABEL PEO					X	X		2					X				1								0			X				X		2	Y	19	25
13. MEN AGGR						X		1									0								0								0		4	0
14. FRIENDSH						X		1	Y				X				1								0						X		2	Y	15	50
15. ENVIRON								0		X	X			X			3		X				X	X	3		X		X				2		31	0
16. FAMILY								0				X					1						X		1								0		8	0
17. FUT TIME							X	1									0			X					1	Y							0		8	25
18. IMP GROUP					X		X	2			X	X					2								0								0		15	0
19. POL ORG						X		1						X			1		X				X		2				X	X		X		3	Y	28	25
%AGR BET IND/GRP *7									19									0								33									66		

*1 Question #3 is: Describe this culture (what are the cultural values?).

*2 Elicited Categories are described more fully below

*3 Letters indicate individual group members

*4 Group response is reported by 1) tally of individual group members' written responses prior to group discussion, and 2) indication of YES if the category was included as part of group consensus

*5 Percentage of raters which indicated this category

*7 Percentage of within group differences between individual and consensus categories

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Table 2 (Study 2, Part 1)

Categories of Cultural Values Elicited From Respondents Answering Question #3 *1

Elicited Categories *2	Group 1							Group 2						Group 3							Group 4							Group 5							% IN	GP AGR
	A	B	C	D	E	T	Y/N	A	B	C	D	T	Y/N	A	B	C	D	E	T	N/Y	A	B	C	D	E	T	Y/N	A	B	C	D	*3	T	Y/N	*5	*6
1. ENJO/PLEA	X					1				X		1		X					1						0		X	X				2	Y	22	20
2. ANTI-EST		X			X	2	Y	X		X		2		X		X		X	3	Y	X				X	2							0		39	40
3. PRO-EST						0		X				1							0		X	X				2		X					1		17	0
4. MIN P VIEW						0		X		X		2	Y			X			1	Y						0			X				1	Y	17	60
5. SEXISM					X	1						0					X		1	Y	X	X		X	X	4	Y	X		X	X		3		39	40
6. EMP RELSH	X					1			X	X		2			X				1				X		X	2	Y	X					1	Y	30	40
7. XENO/LABL			X			1	Y					0							0			X			X	2				X			1		17	20
8. HON/JUST						0		X				1			X				1							0							0		9	0
9. POL CORR					X	1		X				1	Y						0							0			X	X			2	Y	17	40
10. AULT/GRO						0				X		1			X	X			2				X		X	2			X						26	0
11. GEND DIFF		X				1	Y			X		1							0							0			X				1		13	20
12. EFF MEDIA		X				1			X			1	Y						0	Y		X			X	2		X					1		22	40
13. PRO-VIOL			X			1	Y		X			1							0			X	X		X	3							1		22	20
14. ANT-VIOL						0						0							0							0			X				0		4	0
15. L OF EX/GR						0			X	X		2							0							0			X	X			1		17	0
16. SUP/STERE						0				X		1							0	Y					X	1	Y						2	Y	9	60
17. L OF WK ET						0						0							0					X		1	Y	X	X				0		13	20
18. L OF VAL ED					X	1				X		1							0					X	X	2	Y	X	X				2		26	20
19. VALU TECH						0						0							0						X	1							2		4	0
20. HEDONISM	X					1						1		X					1							0				X					13	20
21. LOYALTY	X					1	Y					0			X				1				X			1							1		13	40
22. PRO-ENVIR	X				X	2		X	X			2							0	Y	Y		X	X	X	4	Y	X		X			0		44	40
23. ANTI-MAT						0		X		X		2	Y						0					X		1							2		13	20
24. PRO-MAT		X	X		X	3	Y					0		X		X	X		3			X	X		X	3	Y						0	Y	39	40
25. EXP OTHER					X	1						0							0				X		X	2				X			0		17	0
26. INDIV RGHT	X	X		X		3		X				1			X				1							0							1		22	0
27. L OF TRUST						0						0							0					X		1							0		4	0
28. L OF RESP						0						0							0					X		1							0		4	0
29. SARC/SAT		X		X	X	3			X	X		2				X			0	Y		X	X			2			X	X			2		44	20
%AGR BET IND/							40						24							54							37							35		

*1 Question #3 is: Describe this culture (what are the cultural values?).

*2 Elicited Categories are described more fully below

*3 Letters indicate individual group members

*4 Group response is reported by 1) tally of individual group members' written responses prior to group discussion, and 2) indication of YES if the category was included as part of group consensus

*5 Percentage of raters which indicated this category

*6 Percentage of groups that were in consesus on this catego

*7 Percentage of within group differences between individual and consensus categories

| Table 3 (Study 2, Part 2) | | |

Elicited Categories:

TABLE 1

1. Enjoy Life, have fun
2. Anti-Materialistic (Anti-mainstream, anti-defense anti-republican)
3. Speak for minorities (minority viewpoints not just ethnic minority)
4. Individualistic
5. Xenophobic
6. Emphasis on honesty
7. Political correct
8. Anti-individualistic
9. Anti-personal freedom
10. Materialistic
11. Women exploited
12. Labeling people
13. Men aggressive
14. Emphasis on friendship
15. Emphasis on environmental
16. Emphasis on family
17. Future time orientation
18. Importance of group
19. Political organizations

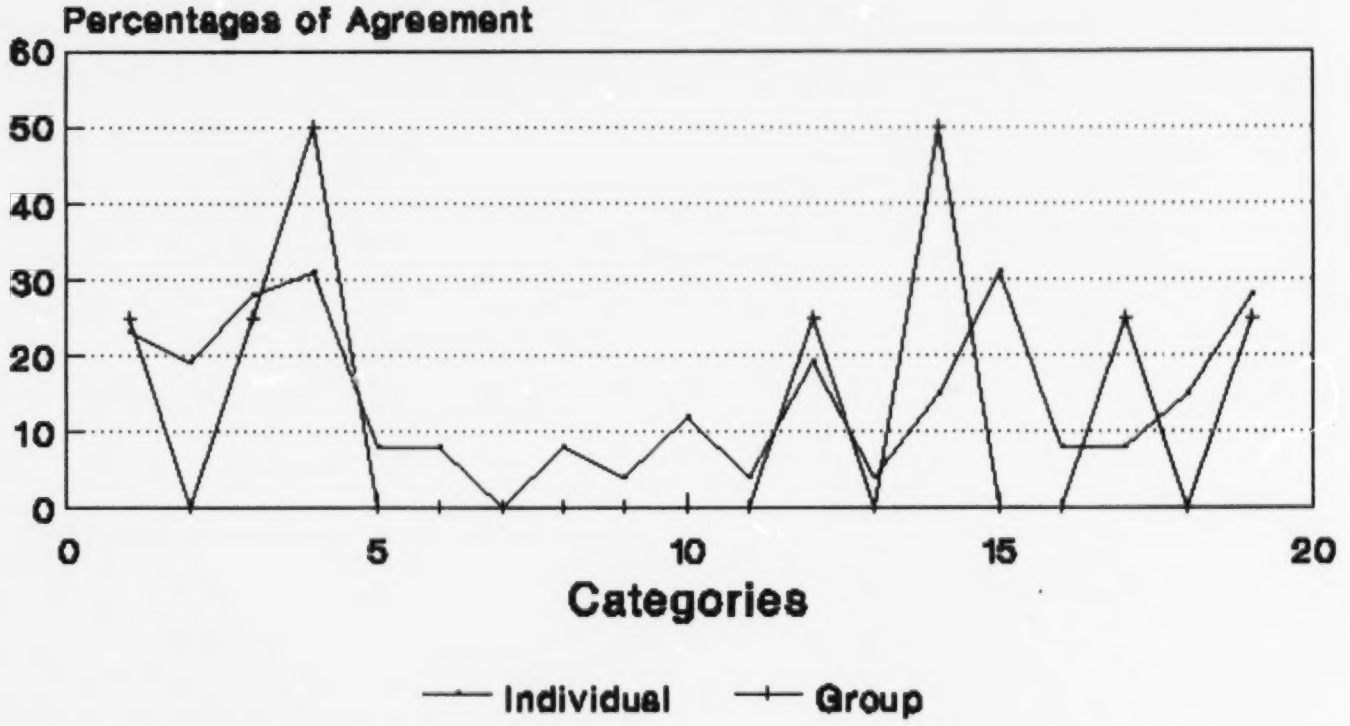
TABLE 2

1. Enjoy life/pleasure
2. Anti-Establishment, anti-mainstream, anti-government
3. Pro-establishment, anti-mainstream, anti-government
4. Speak for minorities (minority viewpoints, not just ethnic minority)
5. Sexism (Male and female)
6. Importance of relationships
7. Xenophobic/labeling
8. Honesty/justice
9. Political correctness
10. Altruism/personal growth
11. Gender differences
12. Effects of the media
13. Pro-violence
14. Anti-violence
15. Lack of existential factors and personal growth
16. Superficial/ stereotypes
17. Lack of work ethic
18. Lack of value of education
19. Value technology
20. Hedonism
21. Loyalty to others
22. Pro-environmental
23. Anti-materialistic
24. Pro-materialistic
25. Exploit others
26. Individual rights
27. Lack of trust
28. Lack of responsibility
29. Sarcasm/ Satire

TABLE 3

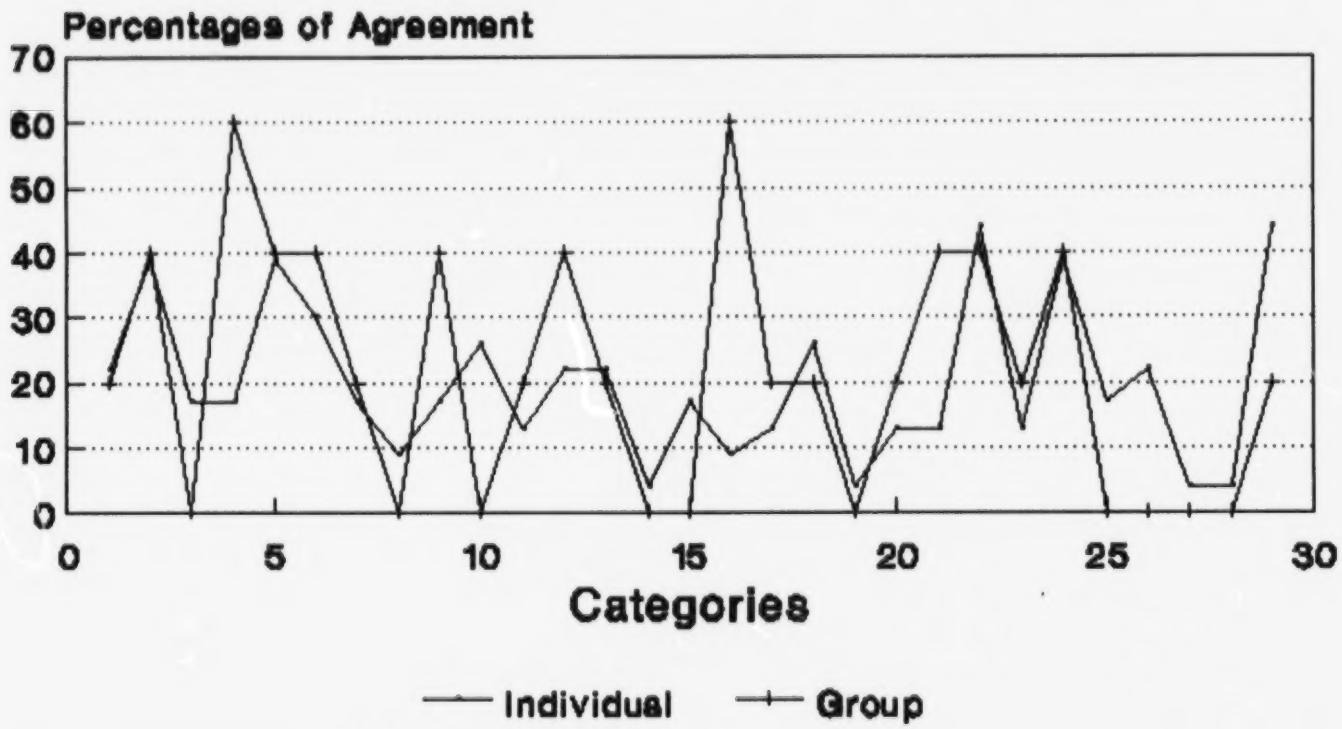
1. Enjoy life/pleasure
2. Anti-Establishment, anti-mainstream, anti-government
3. Speak for minorities (minority viewpoints, not just ethnic minority)
4. Sexism (Male and female)
5. Importance of relationships
6. Xenophobic/labeling
7. Honesty/justice
8. Political correctness
9. Altruism/personal growth
10. Gender differences
11. Effects of the media
12. Pro-violence
13. Anti-violence
14. Lack of existential factors and personal growth
15. Superficial/ stereotypes
16. Lack of work ethic
17. Lack of value of education
18. Value technology
19. Loyalty to others
20. Pro-environmental
21. Anti-materialistic
22. Pro-materialistic
23. Exploit others
24. Individual rights
25. Lack of trust
26. Lack of responsibility
27. Sarcasm/satire
28. Importance of family
29. Politics
30. Social values
31. Dating
32. Argument
33. Personal/social change
34. Children

Study 1
Individual and Group Responses



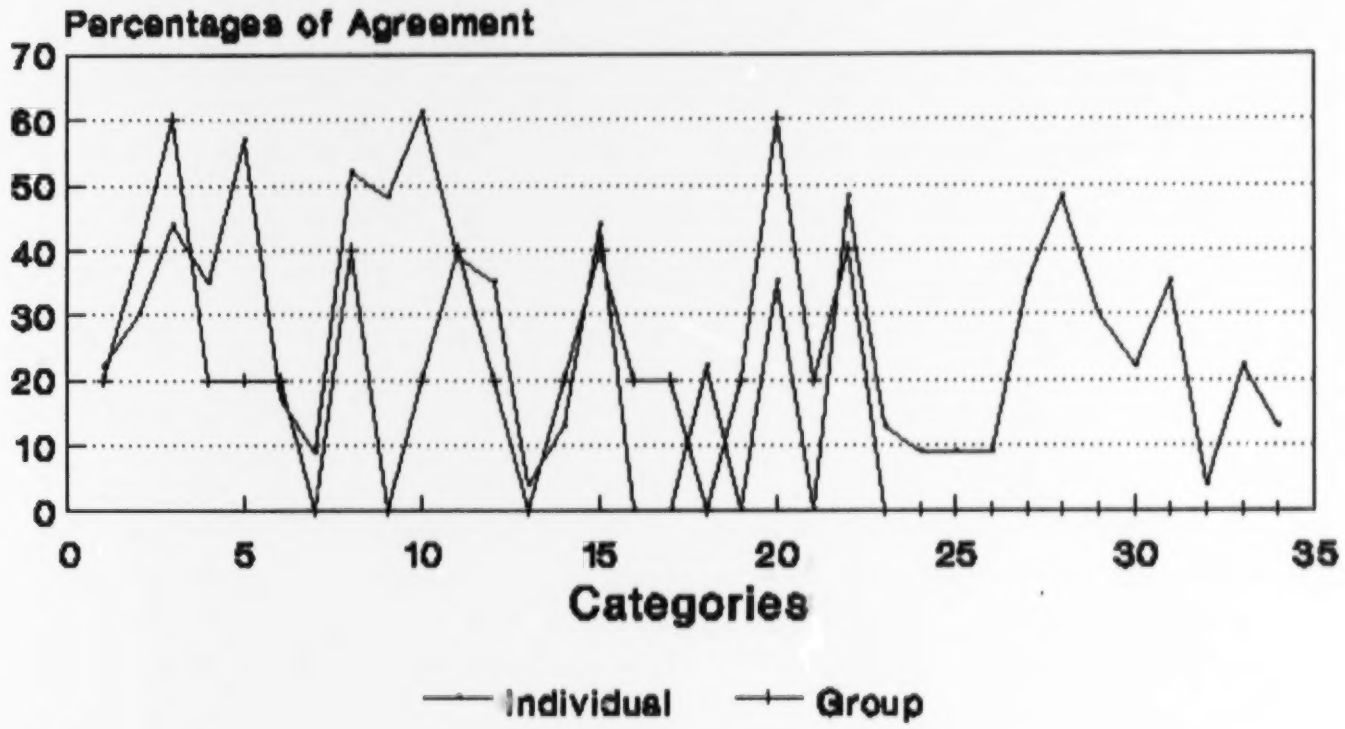
This graph compares the percentage of agreement between individuals' responses and group responses for each category.

Study 2 Part 1
Individual and Group Responses



This graph compares the percentage of agreement between individuals' responses and group responses for each category.

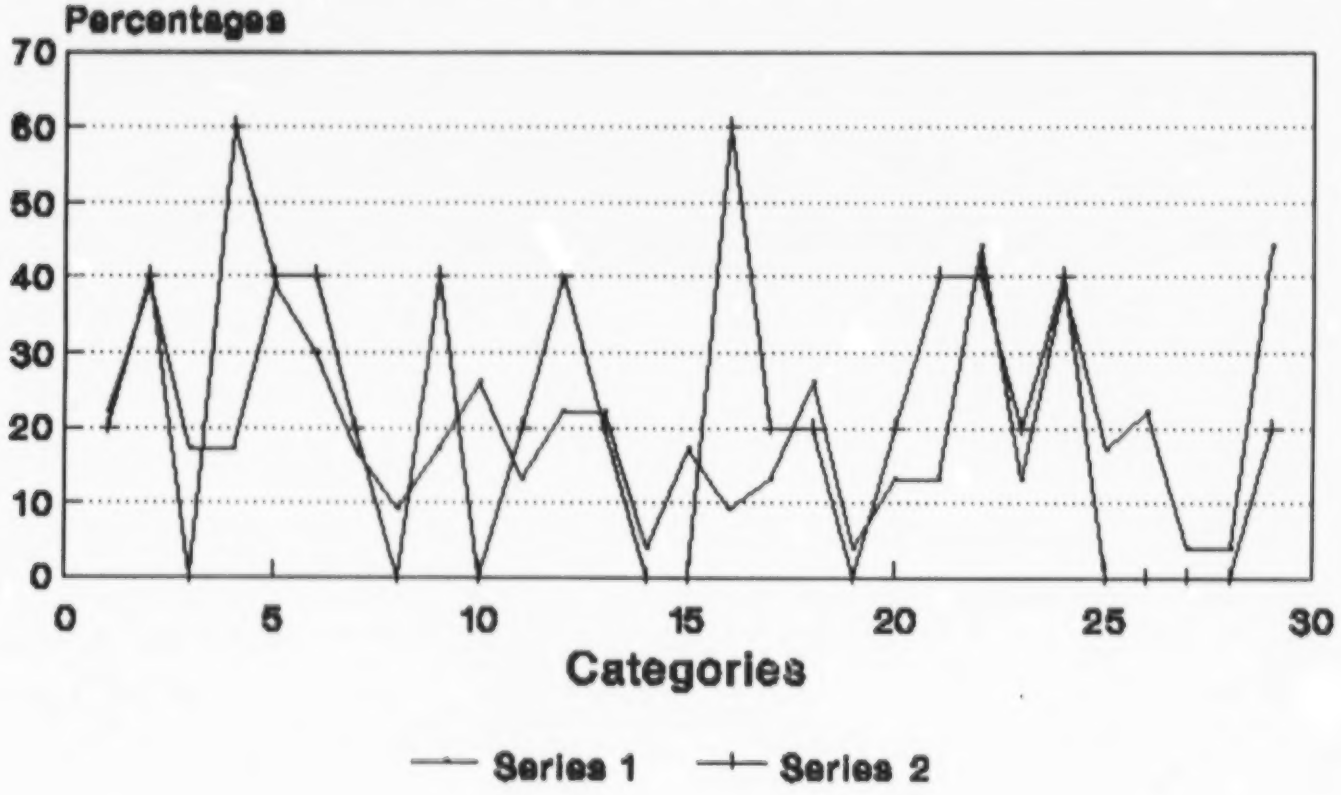
Study 2 Part 2
Individual and Group Responses



This graph compares the percentage of agreement between individuals' responses and group responses for each category.

Study 2 Part 1 Data

Plot of Individual (1) and Group (2)



Study 2 Part 2
Plot of Individual (1) and Group (2)